DOCUMENT RESUME

ED 450 208 UD 034 030

AUTHOR	Fairlie, Robert W.; Resch, Alexandra M.
TITLE	Is There "White Flight" into Private Schools? Evidence from the National Educational Longitudinal Survey. JCPR Working Paper 211.
INSTITUTION	Joint Center for Poverty Research, IL.
SPONS AGENCY	Spencer Foundation, Chicago, IL.
PUB DATE	2000-11-00
NOTE	36p.
AVAILABLE FROM	For full text: http://www.jcpr.org.
PUB TYPE	Reports - Research (143)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Black Students; Diversity (Student); Elementary Secondary Education; *Migration; *Minority Groups; Poverty; *Private Schools; *Racial Attitudes; *Racial Bias; *Whites

ABSTRACT

This report investigates the issue of white flight into private schools by examining data from the National Educational Longitudinal Survey (NELS) and a dataset from the National Center for Educational Statistics. The NELS provides information on student and parental characteristics such as geographical location, religious affiliation, school characteristics, and racial attitudes. The study assesses whether whites are choosing to attend private schools in response to the presence of minority children in public schools, testing the hypothesis that whites are more likely to opt out of public schools when their local schools have larger concentrations of minorities, all else being equal. The study focuses on whether white flight is from all minorities or only from certain groups based on race or income. Data analysis indicates some evidence of white flight from public schools to private schools, partly in response to minority students. White families are fleeing from public schools with large concentrations of poor minority students. The clearest flight appears to be from poor black schoolchildren. The results for white flight from Asian and Hispanic students are less clear. There is some evidence that racism toward minority schoolchildren may contribute to white flight. (Contains 13 references.) (SM)

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Is There "White Flight" into Private Schools? Evidence from the National Educational Longitudinal Survey

JCPR WORKING PAPER 211

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November 2000

Fairlie acknowledges partial funding from the Spencer Foundation. The views expressed here are solely the responsibility of the authors and should not be interpreted as reflecting the views of the Spencer Foundation, the Board of Governors of the Federal Reserve System, or any other person associated with the Federal Reserve System. We thank Chris Jepsen and seminar participants at the Fall 2000 meetings of the Association for Public Policy Analysis and Management. Bill Koch provided excellent research assistance.

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Abstract

Using a recently released confidential dataset from the National Center for Educational Statistics (NCES), we find some evidence of "white flight" from public schools into private schools partly in response to minority schoolchildren. We also examine whether "white flight" is from all minorities or only from certain minority groups, delineated by race or income. We find that white families are fleeing public schools with large concentrations of poor minority schoolchildren. In addition, the clearest flight appears to occur from poor black schoolchildren. The results for "white flight" from Asians and Hispanics are less clear.

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1. Introduction

In *One America in the 21st Century: Forging a New Future*, President Clinton's advisory board on race argues that racial integration in the nation's schools is "essential to provide all students with a complete educational experience (p.63)." The advisory board continues by providing a list of benefits that "accrue to all students and society" from diversity in the schools. This sentiment is not new; previous presidential commissions have also stressed the importance of school integration. The most notable, perhaps, was the Kerner Commission, assembled by Lyndon B. Johnson. The *Kerner Report*, which was released thirty years prior to *One America in the 21st Century*, stated:

> "We support integration as the priority education strategy because it is essential to the future of American society. We have seen in this last summer's disorders the consequences of racial isolation, at all levels, and of attitudes toward race, on both sides, produced by three centuries of myth, ignorance and bias. It is indispensable that opportunities for interaction between the races be expanded. The problems of this society will not be solved unless and until our children are brought into a common encounter and encouraged to forge a more viable design of life (p. 438)."

Both of these reports, however, failed to address a potentially serious and often overlooked threat to school integration -- the fleeing of white children from public schools into private schools. In particular, to the extent that this "white flight" is a response to the presence of minority schoolchildren, it may pose an especially important and vexing problem for the nation's public schools.

Although several recent studies examine whether the choice between private and public school is influenced by the racial composition of the local student population, no consensus appears to exist in the literature on whether "white flight" exists. Conlon and Kimenyi (1991), Lankford, Lee, and Wyckoff (1995), and Lankford and Wyckoff (1997) provide evidence of "white flight" from minorities or blacks. In contrast, Buddin, Cordes and Kirby (1998) find that the probability of attending private school among all students is insensitive to the minority share of public schools at both the elementary and secondary level, and Figlio and Stone (1999) find

that the private school probability among all 10th graders is insensitive to the minority share of the population. In addition, Lankford and Wyckoff (1992) find that white children are more likely to attend public high school when these schools have larger concentrations of black students.[1]

Another important question is whether "white flight" occurs from specific minority groups, delineated by race or income. Most previous studies of "white flight" examine whether the probability of attending private school is influenced by the minority or black share of the local population. One exception is Conlon and Kimenyi (1991), who test for and find evidence of "white flight" from poor blacks, but not from non-poor blacks using 1980 Census data for Mississippi.[2] Their study, however, does not examine whether "white flight" exists from other minority groups. We might expect that white families react differently to minority schoolchildren based on their race and income.

We also know very little about the underlying causes of "white flight." Previous studies speculate as to what may explain "white flight." For example, Conlon and Kimenyi (1991, p. 16) list "irrational prejudice," "characteristics of poor black children which white parents fear or dislike," and "poor management of schools with poor black students, either because of the attitudes of administrators, or greater political passivity of low-income parents" as possible explanations for "white flight" from poor blacks. Lankford and Wycoff (1997) suggest that "white flight" may be due to prejudice, the use of the racial composition of a school as a signal of academic quality, and/or assumptions about the preferences of minority schoolchildren and their parents. None of the studies in the literature, however, investigate these potential explanations.

In this paper, we contribute to the "white flight" literature by using data from the National Educational Longitudinal Study (NELS) and a recently released confidential dataset from the National Center for Educational Statistics (NCES). This special release, unlike the standard

[1] They find a negative relationship, however, for public elementary students.

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restricted-use version of the NELS, allows us to identify the exact residential location of all members of the National Educational Longitudinal Study (NELS).[3] The NELS is an exceptionally rich data source providing information on many student and parental characteristics, including detailed geographical location, religious affiliation, school characteristics, and racial attitudes, that are not available in other sources, such as the Census or Current Population Survey. We use these data to examine whether whites are choosing to attend private schools in response to the presence of minority schoolchildren in the public schools. In particular, we want to test the hypothesis that whites are more likely to opt out of the public school system when their local schools have larger concentrations of minorities, all else equal. An important question that we address is whether "white flight" is from all minorities or only some groups based on race or income. Finally, we explore the question of whether racism against minority schoolchildren contributes to "white flight."

2. Data

We use data from the National Educational Longitudinal Study (NELS) and a recently released confidential dataset from the National Center for Educational Statistics (NCES). The NELS follows a national sample of American youths who were enrolled in the eighth grade in 1988 at two-year intervals.[4] In this analysis, we use data from the 1988 base year and the 1990 first follow-up. These two years of data allow us to examine the determinants of attending private school at both the 8th and 10th grade levels.

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[2] In a related study, Betts and Fairlie (1998) find evidence of flight among native-born whites from immigrant schoolchildren at the secondary level.

[3] The standard restricted-use version of the NELS only contains information on the student's state of residence and the location of attended public schools. Therefore, it has been impossible to identify the exact residential locations of all respondents. The recently released dataset that we use, however, contains demographic data from the 1990 Census at the zip code level for each student in the NELS. With permission from the NCES, we used data from the 1990 Census STF 3B Files and a special matching routine to identify each respondent's residential zip code.

[4] These students were drawn from a sample of approximately 1000 schools. See Huang, et al. (1996) for more details on the NELS.

The data include detailed information on the student and his/her family. In addition to measures of family income and parental education, we use information on religion and racial attitudes which are not available in most other national data sources. We also append school and community characteristics from various sources to these individual-level data. As noted above, the restricted-use version of NELS that has been available for several years does not allow one to identify the residential location of respondents below the state level. Although the restricted-use version identifies the public schools attended by NELS respondents, it does not identify private schools. This information, however, would be less useful as many private school students are likely to attend schools outside of their immediate residential area.

To identify residential locations, we use a recently released dataset from the NCES that contains 1990 Census demographic data at the zip code level for each NELS respondent. This dataset, however, does not identify actual zip codes. With permission from the NCES, we use data from the 1990 Census STF 3B Files to match to this dataset, and thus identify each student's zip code. The zip codes are used to calculate distances to private schools and to identify each student's county of residence.[5] The latter, however, is not straightforward as many zip codes cross county boundaries. We therefore use the following algorithm to identify the county of residence. First, we eliminate counties in which the zip code only captures non-residential parts of that county. This step allows us to assign a unique county of residence to approximately 90 percent of our total sample. Second, for the remaining public school students we use the county of the student's school. Third, for the remaining private school students we use the county that represents the largest fraction of the total population for that zip code.

In our main analysis sample, we include only white children who are currently enrolled in school. We do not differentiate between religious and secular private schools because both are alternatives to public schooling and the key question in this study is whether white children

[5] After identifying the county of residence we identify the student's PMSA by using the county-based definitions of PMSAs provided on the 1994 USA Counties CDROM.

choose to opt out of the public school system in response to a large concentration of minority schoolchildren. We are motivated by how this affects the resulting racial composition of the public schools and are less concerned with the type of private school these students attend.

3. Results

RACIAL DIFFERENCES IN PRIVATE SCHOOL RATES

Racial groups differ markedly in their average propensities to attend private school. In Table 1, we report private school rates by race for 8th grade students in 1987-88 and 10th grade students in 1989-90. The private school rate is defined as the fraction of all schoolchildren enrolled in private school. All estimates are weighted so that they are representative of the U.S. population of 8th and 10th graders in 1987-88 and 1989-90, respectively.[6]

The estimates indicate that white schoolchildren are substantially more likely to attend private school than are minority schoolchildren. Slightly more than 13 percent of white 8th graders and 11 percent of white 11th graders attend private school. In contrast, 9.2 percent of minority 8th graders and 8.7 percent of minority 10th graders attend private school. These disparities in private school rates suggest that if "white flight" from minority schoolchildren exists it should be, on average, from public schools into private schools.

In Table 1, we also report private school rates for blacks, Asians, and Hispanics. The estimates indicate that Asians have higher probabilities of attending private school than whites. Nearly one in six Asian students attends private school. In comparison, private school rates among black and Hispanic students are low. Only 7.1 and 6.9 percent of black 8th and 10th graders, respectively, attend private school. The Hispanic private school rates are 9.5 and 8.4 percent. These estimates imply that black and Hispanic schoolchildren are overrepresented in public schools and underrepresented in private schools, whereas Asian schoolchildren are

[6] Figlio and Stone (1999) compare private school rates by various student characteristics from the 1989-90 NELS to the 1990 Census 1 percent sample and find similar estimates.

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overrepresented in private schools and underrepresented in public schools. These results have implications for the likely direction of "white flight" (if it exists) from each minority group.

ARE PRIVATE SCHOOLS "WHITER" THAN PUBLIC SCHOOLS?

The estimates reported in Table 1 provide evidence of lower concentrations of minorities in the private school system than in the public school system overall. These estimates, however, do not indicate whether the public schools that whites attend are less "white" than the average private school or than the average private school attended by whites. This would provide additional suggestive evidence on the likely direction of "white flight." Fortunately, the detailed information in the NELS allows us to explore this question. In particular, we use information provided in the NELS on the percent of eighth or tenth graders in the student's school that is minority (as reported by the student's school).

In Figures 1 and 2, we report the distribution of minority percentages among whites attending public schools, all students attending private schools, and whites attending private schools.[7] In both grades, private schools have lower minority representations than the public schools attended by whites. The private schools that whites attend are also substantially less likely to have large concentrations of minorities than are the public schools that whites attend. This finding is consistent with the likely direction of "white flight" being from public schools into private schools.

IS THERE "WHITE FLIGHT" FROM MINORITY SCHOOLCHILDREN?

To test the "white flight" hypothesis, we first create and estimate a reduced-form equation for private school attendance. We assume that private school attendance is determined by an unobserved latent variable,

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[7] The 8th grade sample sizes for these groups are 12,343, 5,029, and 3,896, respectively. The 10th grade sample sizes are 9,566, 2,260, and 1,818.

(3.1) $Y_i^* = X_i'\beta + \varepsilon_i$,

where X_i includes student, parental, school and geographical area characteristics, and ε_i is the disturbance term. Only the dichotomous variable, Y_i, is observed, however. It equals 1 if $Y_i^* \geq 0$ (denoting private school attendance) and equals 0 otherwise (denoting public school attendance). If we take ε_i to be normally distributed, the assumptions imply that the data are described by a probit model. Although the normality assumption should only be taken as an approximation, the probit model provides a useful descriptive model for the binary event that a student attends private school.

A complication arises, however, in the use of a standard probit regression because the NELS includes an oversample of private school students. To correct for this problem we use a choice-based sampling maximum likelihood estimator (CBSMLE).[8] The likelihood function for this estimator is weighted to account for the oversample of ones for the dependent variable. Observations in which Y=0 and Y=1 are given weights of P^W/P^U and $(1-P^W)/(1-P^U)$, respectively, where P^W is the private school rate calculated using sample weights provided by the NELS, and P^U is the unweighted private school rate.

We estimate several probit regressions for the probability of attending private school using a sample of white, non-Hispanic students. In addition to measures of student, parental, school and geographical area characteristics, we include the minority share of the school-age population in the regressions. The coefficient on this variable provides an estimate of whether the private/public school choices of white schoolchildren are sensitive to the presence of minority schoolchildren.

We measure the minority share of the population at both the county and PMSA-levels. The main advantage to using the county-level measure is that it captures a smaller geographical area, and is thus less likely to suffer from problems associated with aggregating heterogeneous

areas. However, there are a few disadvantages to using the county-level measure. The first of these is particularly important. Suppose that whites respond to high concentrations of minorities not by enrolling their children in private school, but instead by moving to other neighborhoods where the public schools have fewer minority students. This may cause an upward bias on the coefficient estimate for the minority proportion of the population if we focus on narrow geographic areas such as counties. Specifically, any movement from high-minority school districts to low-minority school districts increases the private school rate in the sending district and decreases the private school rate in the receiving district, thus implying a larger positive correlation between the private school rate and the minority share. In contrast, by using PMSAs, we greatly reduce this problem because these areas typically encompass many neighborhoods.[9]

A second but related rationale for using PMSAs concerns the endogeneity of households' location more generally. The influence of educational resources on residential location decisions is likely to be much stronger across school districts or counties than across metropolitan areas. In other words, families are more likely to move between districts or counties within a PMSA as a result of variations in school quality than they are to move between PMSAs. Moves between PMSAs are likely to be influenced mainly by factors apart from schooling, such as the availability of jobs or the presence of family members. This suggests that the simultaneity of location decisions and school sector choices poses less of a problem when the unit of analysis is the PMSA than when it is a smaller geographical area, such as a county.

The third justification for using PMSAs as the unit of analysis is that they more accurately represent markets for private schools than do counties or school districts. Certainly, many families send their children across county lines to private schools.

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[8] See Amemiya (1985) for more details.

[9] It would also be interesting to examine whether white families move to alternative school districts or counties in response to minority schoolchildren. However, it is difficult to distinguish between whether the locational choices of whites are determined by the presence of minorities in the public schools or by the presence of minorities in the neighborhood. These issues are beyond the scope of this paper.

Taking these arguments into consideration, we estimate separate regressions using PMSA and county-level measures of the minority share of the school-age population.[10] We first discuss the results for the PMSA-level measure (reported in Specifications 1 and 2 of Table 2). We estimate separate regressions for our sample of white students in the 8th and 10th grades. In addition to the minority share variable, we include controls for age, sex, religion, parental education, family income, region of the country, distance to the closest private school, private and public school characteristics, poverty rate, and crime rate (means of most included variables are reported in the Appendix). The coefficients on the individual-level variables generally have the expected signs. Catholics are more likely to attend private school than are members of other religious groups. The probability of attending private school increases with both mother's and father's education level. Finally, higher levels of family income increase the probability of attending private school.

The coefficient estimates on the public school student to teacher ratio, public school expenditures per pupil, public school graduation rate, and private school student to teacher ratios are generally statistically insignificant. In both specifications, the public school variables are measured at the PMSA level, and the private school student to teacher ratio is measured at the state level.[11] The coefficient on the serious crime rate is negative, although statistically significant in only one of the specifications.[12] A priori, we expected this variable to have a positive effect because of the possibility that white families would choose the tighter restrictions or more homogenous population of students in private schools when high levels of crime exist in the area. In addition, there is evidence in previous studies that higher local crime rates lead to

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[10] The NELS sample of 8th graders resides in 216 different PMSAs and 716 different counties in the United States. The 10th graders reside in 216 different PMSAs and 669 different counties.

[11] The public school student to teacher ratio, expenditures per pupil and graduation rate variables are from the Common Core of Data (CCD). The state-level private student to teacher variable is from the Private School Survey as reported in the 1993 Digest of Education Statistics.

[12] Serious crimes include murder and nonnegligent manslaughter, forcible rape, robbery, aggravated assault, burglary, larceny-theft, and motor vehicle theft. We obtain these data from the 1994 USA Counties CDROM.

higher probabilities of attending private schools (see Figlio and Stone 1999 and Betts and Fairlie 1998 for example). The coefficient on the poverty rate (ages 5 -17) is statistically insignificant in both specifications.

The results for the distance to the closest private school are noteworthy. We create this variable by first identifying the longitude and latitude of all zip codes in the United States. For each NELS respondent we then calculate the distance to every private school with at least 100 students and include the closest distance and its square in the probit regressions.[13] As expected, we find that the distance to the closest private school has a negative (for almost its entire range in the sample) and statistically significant effect on the probability of attending private school.[14]

We now turn to the results for the minority share of the school-age population.[15] To create the minority share we group blacks, Asians, American Indians, and Hispanics.[16] The coefficient estimate on this variable in Specification 1 is positive, but not statistically significant. Using the 10th-grade sample the coefficient estimate on the minority share is similar in magnitude and remains statistically insignificant.

We also estimate probit regressions that include county-level measures of the minority share, public school student to teacher ratio, public school expenditures per pupil, public school

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[13] We thank Todd Elder for providing a Matlab program that calculates the distance between any two points given their longitude and latitude. A Fortran version of the program is available at the National Oceanic and Atmospheric Administration, National Geodetic Survey web page: ftp://ftp.ngs.noaa.gov/pub/pcsoft/for_inv.3d/source/inverse.for. Private school zip codes are obtained from original records of the 1989-90 Private School Survey. We obtained a special listing from Steve Broughman at the NCES.

[14] Lankford and Wycoff (1997) find a negative effect of distance on the private/public school choices of elementary school students in upstate New York.

[15] This variable is obtained from the Census STF 3C files. We define the school-age population as ages 5-18 in both specifications. We also estimate probit regressions in which we measure the minority share for ages 5-14 using the 8th-grade sample and the minority share for ages 14 to 18 using the 10th grade sample. The coefficient estimates are very similar to the reported estimates (due to the high degree of collinearity between the measures). We argue that the entire age range is a more appropriate measure as white parents may simply use the race of all children in the local area to make inferences about the racial composition of the public schools.

[16] The Census STF 3C files include separate population counts by racial group (i.e. white, black, American Indian, Asian, and other) and by Hispanic origin. We include Hispanics, but do not include children of "other " race in our definition of minorities. Estimates from 1990 Census microdata indicate that 45 percent of Hispanics report "other" race and 97 percent of "other" race report being of Hispanic origin. In

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graduation rate, poverty rate, and crime rate (reported in Specifications 3 and 4). The number of observations used in these regressions increases appreciably as many NELS respondents live in counties that are located outside of PMSAs. The coefficient estimates on many of these controls are generally similar to those in the PMSA-level regressions.

Using the county-level measure of the minority share, the coefficient estimates are notably larger.[17] The coefficient estimate using the 10th-grade sample is statistically significant at the 0.05 level. The coefficient estimate using the 8th-grade sample has a p-value of 0.055. In both specifications, the point estimates imply nontrivial effects. For example, a 10 percentage point increase in the minority share increases the probability of private school attendance by 0.013 among 8th graders and 0.015 among 10th graders.[18] The average private school attendance probability is 0.124 for 8th graders and 0.104 for 10th graders.

As a check of the robustness of our results, we estimate three additional sets of regressions. First, we investigate whether there is evidence of threshold or "tipping" points in the response to the minority share (e.g. Clotfelter 1976). We plot private school rates by detailed categories of the minority share for each of our samples. Interestingly, these graphs reveal patterns that are best described as positive linear functions. There is, however, a slight increase in the private school rate when the minority share is 15 percent or higher. To examine this possible "tipping" point we include a dummy variable for minority shares of 15 percent or higher. The coefficient estimates on this dummy variable are positive, but statistically insignificant in all specifications. They range from 0.1094 to 0.2649. The coefficients on the linear term remain

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our definition of minority, there exists some double counting of Hispanic blacks, American Indians, and Asians, but only 2.8, 1.1 and 0.8 percent of Hispanics report these races, respectively.

[17] We also estimate probit regressions that include county-level measures, but use the more urban sample of Specifications 1 and 2. The 8th and 10th grade coefficients on the minority share are 0.5475 and 0.8097, respectively.

[18] These estimates are calculated by multiplying the coefficient estimate by the average derivative adjustment factor reported at the bottom of Table 2. The average derivative adjustment factor is $\Sigma\beta_1\phi(X_i'\beta)/N$, where β_1 is the coefficient on the minority share and ϕ is the normal probability density function. The effect of a one unit increase in any of the independent variables on the private school probability can be estimated by multiplying the coefficient on that variable by the average derivative adjustment factor.

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positive, but are smaller in magnitude than those reported in Table 2. Although alternative thresholds may provide evidence supporting the "white flight" hypothesis, we do not experiment further along these lines. We are concerned that thresholds are created somewhat arbitrarily and without any theoretical guidance. Thus, we return to our original specification, which can be viewed as an approximation to the actual relationship.

We also estimate probit regressions that do not include the distance variables. The minority share coefficients in all four specifications are larger than those reported in Table 2. Finally, we estimate additional 10th-grade probit regressions that include 8th-grade test scores. The coefficient estimates on the minority share do not differ substantially from those reported in Specifications 2 and 4.

TRANSITIONS FROM PRIVATE TO PUBLIC SCHOOL

Another empirical approach to examining the "white flight" hypothesis is to identify the determinants of transitions between the private and public school systems. In particular, the finding that the minority share increases the probability that a student switches from public to private school or decreases the probability that a student switches from private to public school is consistent with the "white flight" hypothesis. The NELS contains observations for the same students in both the 8th and 10th grades. We examine whether the minority share of the school-age population affects the probability that a student switches from private school in the 8th grade to public school in the 10th grade. We would also like to examine the determinants of transitions from public school in 8th grade to private school in 10th grade, however, there are only 54 out of 8872 public 8th graders making this transition.

We estimate several probits for the probability of a transition from private to public school. The dependent variable in these probit regressions equals 1 if the student switches from a private school in 8th grade to a public school in 10th grade and equals 0 if the student remains in

a private school in both grades. Results are reported in Specifications 1 and 3 of Table 3. We include the same independent variables as those included in the probits reported in Table 2.

As expected many of the coefficients have the opposite sign as those reported in Table 2. For example, the estimates indicate that the probability of a transition from private to public school decreases with family income and father's education. This is consistent with the positive coefficients found in the cross-sectional regressions. The effect of mother's education, however, is less consistent across the approaches. Turning to the results for the minority share of the school-age population, we find large, negative, but statistically insignificant coefficient estimates for the PMSA- and county-level measures. The lack of statistical significance, however, may be due to small sample sizes.

By conditioning on private school enrollment in the 8th grade, our sample sizes decrease substantially from those used in Table 2. The PMSA-level sample has 1750 observations and the county-level has 1872 observations. The smaller sample sizes, however, are partially due to the large percentage of NELS respondents with missing values for family income and religion. To increase our sample sizes for the transition probits we include these observations and add dummy variables for missing family income and religion. Results are reported in Specifications 2 and 4. At both the PMSA and county level, the coefficients are larger in absolute value and are now statistically significant. Furthermore, the coefficients imply substantial effects. A 10 percentage point increase in the minority share decreases the probability of switching from private school in 8th grade to public school in 10th grade by 0.036 to 0.050. The average private to public school transition probability is 0.25.

To summarize, the results provide some evidence supporting the "white flight" hypothesis. We find that the minority share of the school-age population measured at the county level has a positive and statistically significant effect on the probability of private school attendance among whites. We also find that the minority share (measured at either the PMSA or

county level) has a negative and statistically significant effect on the probability of switching from private school in the 8th grade to public school in the 10th grade.

ARE WHITES FLEEING FROM SPECIFIC MINORITY GROUPS?

Using data from Mississippi, Conlon and Kimenyi (1991) find evidence of "white flight" from poor blacks, but not from non-poor blacks. This finding suggests that white families may react differently to poor and non-poor minorities. It also raises the question of whether whites are fleeing from all minorities or only some racial groups. Whites may dislike or have concerns over the peer group effects of some minority groups more than others.

In Table 4, we report estimates from several probit regressions for the probability of private school attendance that include different measures of minority population shares. For brevity, we do not report coefficient estimates for the control variables. We first estimate probit regressions that include the black, Asian, and Hispanic shares of the school-age population (reported in Panel I).[19] Using the PMSA-level measures, the coefficients on the black share are large and positive, but statistically insignificant. The coefficients using the county-level measures, however, are statistically significant. These coefficients imply that the increase in the white private school probability resulting from a 10 percentage point increase in the black share is 0.023 to 0.024. A one standard deviation increase in the black share increases the white private school rate by 0.031 to 0.032.

The coefficient estimates on the Asian share of the school-age population are large, positive, and statistically significant. However, the positive coefficient on the Asian share is difficult to interpret. The estimates reported in Table 1 indicate that Asians have a higher probability of attending private schools than whites. The combination of this finding and the

[19] We do not include a separate variable for the American Indian share of the population because this group represents a very small fraction of the population in most PMSAs and counties. We should also note that there is some overlap between the Hispanic share, and the black and Asian shares. As reported above, however, this overlap is very small.

positive coefficient may be the result of "white flight" *to* Asian schoolchildren instead of *from* Asian schoolchildren. The estimates imply that the average probability of private school attendance among whites increases by 0.021 to 0.036 from a one standard deviation increase in the Asian share.

We also include the Hispanic share of the school-age population in the regressions. The coefficient estimates on this variable are negative and statistically significant in all specifications. The private school probability effects resulting from a one standard deviation increase in the Hispanic share range from -0.019 to -0.052. The negative sign on this variable is difficult to interpret. As indicated in Table 1, Hispanic schoolchildren are less likely to attend private school than are white schoolchildren.

The coefficient estimates from these regressions provide some evidence of "white flight" from black schoolchildren. The evidence, however, is less clear for "white flight" from Asian or Hispanic schoolchildren. To investigate this further, we examine whether the coefficient estimates on the Asian and Hispanic shares are sensitive to a few outliers. Specifically, we estimate probit regressions that exclude the PMSAs or counties with Asian or Hispanic shares that are substantially higher than the rest (which represent less than 1% of the sample).[20] The coefficient estimates on the Asian share and Hispanic share do not change substantially after the removal of these observations.

In Table 4, we also report estimates from probit regressions in which we distinguish between poor and non-poor minorities. White families may react differently to poor and non-poor minority schoolchildren. In Panel II, we report separate coefficient estimates for the minority share of the school-age population that is below the poverty line and the minority share that is above the poverty line.[21] The results provide evidence that "white flight" is from poor

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[20] We exclude PMSAs and counties with Asian shares higher than 60 and 35 percent and Hispanic shares higher than 60 and 70 percent, respectively.

[21] We define the school-age population as ages 5-17 in these regressions due to limitations in the age categories provided in the Census STF 3C files.

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minorities and not from non-poor minorities. The coefficient estimates on the poor minority share are large and positive in most specifications. In both county-level specifications they are statistically significant. A 10 percentage point increase in the poor minority share increases the probability of private school attendance by 0.059 to 0.062. The effects of a one standard deviation increase in the poor minority share are also large, ranging from 0.044 to 0.048. In contrast, the coefficient estimates on the non-poor minority share are small and statistically insignificant in all four specifications.

We also estimate probit regressions that include poor and non-poor black, Asian and Hispanic population shares. The coefficient estimates on the poor black share are large and positive in all specifications and statistically significant in two specifications. In the county-level specifications, the average private school attendance probability increases by 0.084 to 0.085 from a 10 percentage point increase in the poor black share and by 0.051 to 0.053 from a one standard deviation increase in the poor black share. The coefficients on the non-poor black share are much smaller and statistically insignificant, suggesting that "white flight" is not from non-poor blacks. This finding is consistent with the finding in Conlon and Kimenyi (1991) of "white flight" from poor blacks, but not from non-poor blacks in Mississippi in 1980.

The coefficient estimate on the poor Asian share is positive in all specifications, but statistically significant in only one. In this specification, the point estimate implies that a one standard deviation increase in the poor Asian share increases the white privare school rate by 0.018. The coefficient estimate on the non-poor Asian share is positive and statistically significant in two of the specifications. In these specifications, a one standard deviation increase in the non-poor Asian share increases the private school attendance probability by 0.017 to 0.033. Overall, we are cautious in interpreting these results due to the variability of coefficient estimates and small average values for the poor and non-poor Asian shares. The results, however, indicate that the positive effect of the total Asian share on the probability of attending private school is not being driven solely by the effects of poor or non-poor Asians.

The results for the poor and non-poor Hispanic shares are also difficult to interpret. We find both negative and positive (but always insignificant) coefficients on the poor Hispanic share. In contrast, the coefficient estimates on the non-poor Hispanic share are negative in all specifications. They are not statistically significant in any of the specifications. Unfortunately, these results do not shed light on the puzzling finding of a negative and statistically significant coefficient on the Hispanic share in Panel I.

The results reported in Table 4 provide evidence that white families are fleeing public schools with large concentrations of poor minority schoolchildren. In addition, the strongest flight appears to be from poor black schoolchildren. The results for "white flight" from Asians and Hispanics are less clear.

We now turn to a discussion of the results from a similar set of probit regressions for the probability of switching from private school in 8th grade to public school in 10th grade. Estimates are reported in Table 5. In Panel I, we find that the signs of the coefficients on the black, Asian, and Hispanic shares are consistent with those reported in Table 4. The black and Asian shares have negative coefficients and the Hispanic share has a positive coefficient. All of the Asian share coefficients are statistically significant, whereas only two of the Hispanic share coefficients and none of the black share coefficients are significant.

The results reported in Panel II are somewhat of a puzzle. Using the PMSA-level measures, the poor minority share and non-poor minority share coefficients have the opposite signs as expected based on the results reported in Table 4. In contrast, however, the negative coefficients on the poor minority share using the county-level measures are consistent with the findings reported in Table 4.

In the final set of probit regressions reported in Table 5, most of the coefficient estimates have the opposite sign as those reported in Table 4. However, only a few of the coefficients are statistically significant. It is important to keep in mind that these samples condition on

enrollment in a private school in the 8th grade. Thus, the sample sizes are considerably smaller than those used in Table 4.

Overall, the private/public school transition probit results are generally consistent with the results for the probability of private school attendance. As expected, most of the coefficients had the opposite sign as those reported in Table 4. The main difference in results was that very few of the transition coefficients are statistically significant.

IS RACISM DRIVING "WHITE FLIGHT?"

As noted in the Introduction, we know very little about the causes of "white flight." In this section, we examine an important potential explanation, racism. Some white parents may simply have a distaste for their children being in the same classrooms or schools as minority schoolchildren, thus increasing the probability that they send their children to less integrated private schools.

The NELS contains a variable that may help us explore this hypothesis. Students were asked the following question on the 10th grade survey: "How often do you feel it is 'OK' for you to make racist remarks?"[22] Respondents were allowed to choose one of the following responses: (i) "Often", (ii) "Sometimes", (iii) "Rarely", and (iv) "Never." Approximately, 85 percent of our sample of white 10th graders reported "Never."[23] We use the remaining 15 percent to create a "racist remarks" dummy variable. We then interact this dummy variable with the minority share of the school-age population variable. We add these two variables to the specifications reported in Table 2. Although much caution is warranted here, a positive coefficient estimate on the interaction variable provides some suggestive evidence that "white flight" is partly driven by personal prejudice.

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[22] The parents are likely to make the school sector choice, but we expect that a child's response to this question partly reflects his/her parents' attitudes towards race.

[23] In our sample, 1.8, 3.1 and 10.6 percent reported "Often," "Sometimes" and "Rarely," respectively.

We report probit estimates in Panel I of Table 6. In all four specifications, the coefficient estimate on the interaction variable is positive. None of the coefficients, however, are statistically significant. Although these coefficients are not statistically significant it is useful to examine their size. They imply that a 10 percentage point increase in the minority share increases the probability of attending private school among white students who feel that is okay to make racist remarks by an additional 0.002 to 0.004. These added effects are small relative to the total effect of the minority share on the probability of attending private school.

We also estimate probit regressions that include an interaction between the racist variable and the black share of the school-age population. We find evidence of "white flight" from black schoolchildren and suspect that racism towards blacks may be especially strong. Estimates are reported in Panel II of Table 6. Again, we find positive coefficients on the interaction variable in all specifications. Although none of these coefficients are statistically significant at the 0.05 level, the coefficient in Specification 3 is statistically significant at the 0.10 level. This coefficient estimate implies that a 10 percentage point increase in the minority share increases the white private school rate by an additional 0.008.

In Table 7, we report similar estimates from probit regressions for the probability of a transition from private to public school that include the racist interaction variable. As expected the coefficient estimates on the racist/minority share interaction variable are negative in all specifications. In contrast, however, the coefficients on the racist/black share interaction variable are positive. None of these coefficients is statistically significant.

Clearly, it is a difficult task to identify the part of "white flight" that is due to personal prejudice. Our goal here is much more modest. We find some very limited evidence of a higher level of "white flight" among whites who are less opposed to making racist comments than among other whites. This result suggests that racism or personal prejudice may play a role in "white flight." We should note, however, that we find evidence of flight among whites who feel that it is never okay to make racist remarks. If we assume that personal prejudice does not play a

role in this group's school sector decision (which may be entirely unreasonable) then other factors are largely responsible for "white flight."

4. Conclusions

Using data from the National Educational Longitudinal Survey, we find some evidence of "white flight" to private schools from minority schoolchildren. In probit regressions for the probability of attending private school among whites, we find statistically significant coefficients on the minority share of the school-age population using county-level measures. Using PMSA-level measures, we find smaller positive coefficients that are not statistically significant. We also estimate probit regressions for the probability of switching from private school in the 8th grade to public school in the 10th grade and find negative and statistically significant coefficients on the minority share.

Following Conlon and Kimenyi's (1991) finding of "white flight" from poor blacks, but not from non-poor blacks, in Mississippi, we extend our analysis to explore whether "white flight" exists from specific racial or racial/income groups. Our results provide evidence that white families are fleeing public schools with large concentrations of poor minority schoolchildren. In addition, the clearest flight appears to be from poor black schoolchildren. We find large, positive coefficients in all specifications and statistically significant coefficients in the county-level specifications for the probability of attending private school. The results for "white flight" from Asians and Hispanics are less clear.

Using a measure of racial attitudes available in the NELS, we find some suggestive evidence that racism toward minority schoolchildren may contribute to "white flight." Unfortunately, the subjectivity of the question and the imprecision of the coefficient estimates do not allow us to draw strong conclusions from these results. It is possible that a larger sample size would provide statistical significance or a less subjective question would elicit a more accurate measure of racial attitudes. In the end, however, we do not have a definitive answer as to the

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underlying causes of "white flight." From a policy perspective, this is unfortunate as a better understanding of whether "white flight" from minority schoolchildren is driven by racism, concerns about peer group effects, or signals of school quality would contribute greatly to the debates over the potential effects of private school vouchers, increased public school choice, and busing on the racial composition of the nation's schools.

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Table 1
Private School Rates by Race

	8th Grade (1987-88)		10th Grade (1989-90)	
	Rate	N	Rate	N
White, Non-Hispanic	13.2%	16317	11.2%	11537
Minority	9.2%	8006	8.7%	4593
Black	7.1%	3009	6.9%	1517
Asian	16.5%	1527	17.3%	1030
Hispanic	9.5%	3171	8.4%	1901

Notes: (1) The private school rate is the fraction of school children enrolled in private school.
(2) All private school rates are calculated using sample weights provided by the NELS.

Table 2
Probit Regressions for Probability of Attending Private School

	Specification			
	PMSA-Level		County-Level	
Explanatory Variables	8th Grade (1)	10th Grade (2)	8th Grade (3)	10th Grade (4)
Born in 1972 or 1973	-0.1091	-0.0430	-0.1140	-0.0400
	(0.0430)	(0.0561)	(0.0347)	(0.0508)
Female	-0.0095	-0.0552	-0.0078	-0.0578
	(0.0306)	(0.0513)	(0.0316)	(0.0483)
Baptist	-0.0873	-0.3456	-0.0529	-0.2743
	(0.1490)	(0.1795)	(0.1358)	(0.1573)
Methodist	-0.2007	-0.3725	-0.1391	-0.3261
	(0.1198)	(0.1591)	(0.1177)	(0.1461)
Lutheran	0.0125	-0.2936	0.0878	-0.2945
	(0.1355)	(0.1454)	(0.1373)	(0.1458)
Other Christian	0.2012	0.0337	0.2310	0.0740
	(0.1013)	(0.1421)	(0.1071)	(0.1314)
Catholic	0.7061	0.3934	0.7178	0.3860
	(0.1148)	(0.1498)	(0.1147)	(0.1497)
Jewish	0.4317	0.2220	0.3432	0.1293
	(0.1726)	(0.1979)	(0.1682)	(0.1991)
Other Religion	-0.2203	-0.2915	-0.1335	-0.2085
	(0.1339)	(0.1800)	(0.1424)	(0.1674)
Mother Graduated from High School	0.4842	0.2601	0.4831	0.2657
	(0.0656)	(0.1197)	(0.0807)	(0.1325)
Mother Has some College	0.5276	0.3854	0.5296	0.3988
	(0.0748)	(0.1324)	(0.0847)	(0.1379)
Mother Graduated from College	0.7356	0.5772	0.7488	0.5932
	(0.0791)	(0.1354)	(0.0898)	(0.1463)
Father Graduated from High School	0.1534	0.2613	0.1885	0.2868
	(0.0535)	(0.0938)	(0.0602)	(0.1169)
Father Has some College	0.1838	0.3075	0.2495	0.3810
	(0.0604)	(0.1020)	(0.0662)	(0.1237)
Father Graduated from College	0.4270	0.6311	0.4500	0.6834
	(0.0720)	(0.1186)	(0.0735)	(0.1317)

(continued)

Table 2 (continued)
Probit Regressions for Probability of Attending Private School

	Specification			
	PMSA-Level		County-Level	
Explanatory Variables	8th Grade (1)	10th Grade (2)	8th Grade (3)	10th Grade (4)
Family Income: $15,000 to $25,000	0.1427 (0.0791)	0.3566 (0.1035)	0.1810 (0.0747)	0.4353 (0.1046)
Family Income: $25,000 to $35,000	0.3114 (0.0857)	0.3705 (0.1021)	0.3469 (0.0726)	0.4585 (0.0890)
Family Income: $35,000 to $50,000	0.3534 (0.0813)	0.4652 (0.0996)	0.4073 (0.0767)	0.5686 (0.0937)
Family Income: $50,000 to $100,000	0.3260 (0.0959)	0.5190 (0.1150)	0.3982 (0.0823)	0.6333 (0.1040)
Family Income more than $100,000	1.1771 (0.1355)	1.4250 (0.1341)	1.2092 (0.1084)	1.5478 (0.1177)
Public School Student to Teacher Ratio	0.0302 (0.0387)	0.1747 (0.0551)	0.0596 (0.0305)	0.1524 (0.0362)
Public School Expenditures per Pupil (000s)	0.0741 (0.0837)	0.0435 (0.0926)	0.0758 (0.0741)	0.1096 (0.0718)
Public School Graduation Rate	0.8431 (1.3403)	1.3936 (1.2412)	-0.6242 (0.7737)	0.1411 (1.0011)
Private School Student to Teacher Ratio	-0.0228 (0.0518)	-0.0802 (0.0606)	-0.0345 (0.0405)	-0.0924 (0.0447)
Serious Crime Rate	-7.0664 (3.3321)	-2.4045 (4.2596)	-1.4288 (2.4915)	-1.6915 (3.1561)
Poverty Rate (Ages 5 - 17)	1.1201 (1.4078)	-0.4411 (1.7940)	1.5251 (0.8397)	1.4204 (1.1129)
Distance to Closest Private School (Km)	-0.0494 (0.0090)	-0.0467 (0.0088)	-0.0438 (0.0063)	-0.0393 (0.0074)
Distance Squared / 100	0.0224 (0.0047)	0.0205 (0.0048)	0.0183 (0.0042)	0.0155 (0.0048)
Minority Share of Population (Ages 5-18)	0.2331 (0.6047)	0.5119 (0.7259)	0.8251 (0.4294)	1.2055 (0.5261)
Mean of Dependent Variable	0.1604	0.1393	0.1238	0.1041
Avg. Derivative Adj. Factor	0.1956	0.1687	0.1537	0.1259
Sample Size	10020	6927	13330	9511

Notes: (1) The sample consists of white, non-Hispanic schoolchildren. (2) Standard errors are reported in parentheses and are adjusted for including multiple observations per PMSA or county. (3) All estimates are adjusted for oversample of private school students. (4) In addition to the reported variables, all specifications include a constant, region dummies, and dummy variables for missing mother's and father's education levels. (5) The average derivative (or marginal effect) is equal to the adjustment factor multiplied by the coefficient. See text for more details.

Table 3
Probit Regressions for Probability of Switching from Private to Public School

	Specification			
	PMSA-Level		County-Level	
Explanatory Variables	8th-10th Grade (1)	8th-10th Grade (2)	8th-10th Grade (3)	8th-10th Grade (4)
Born in 1972 or 1973	0.0860	0.1004	0.0569	0.0679
	(0.1235)	(0.1083)	(0.1066)	(0.0982)
Female	0.1390	0.1802	0.1206	0.1654
	(0.0950)	(0.0875)	(0.0898)	(0.0834)
Baptist	1.0027	0.9443	0.8351	0.8070
	(0.5921)	(0.5904)	(0.6060)	(0.5935)
Methodist	1.0632	0.9274	0.9699	0.8435
	(0.5674)	(0.5596)	(0.5775)	(0.5679)
Lutheran	0.7562	0.6868	0.7319	0.6388
	(0.5014)	(0.4936)	(0.5681)	(0.5570)
Other Christian	0.6097	0.5535	0.5394	0.4734
	(0.5511)	(0.5435)	(0.5725)	(0.5595)
Catholic	0.8012	0.7114	0.8109	0.7248
	(0.5355)	(0.5281)	(0.5685)	(0.5564)
Jewish	0.6435	0.6132	0.6133	0.5702
	(0.6307)	(0.6404)	(0.5983)	(0.5882)
Other Religion	0.4778	0.4677	0.2951	0.2879
	(0.6635)	(0.6525)	(0.6879)	(0.6735)
Mother Graduated from High School	0.7523	0.3741	0.4757	0.2024
	(0.3025)	(0.3128)	(0.2584)	(0.2200)
Mother Has some College	0.6327	0.2808	0.3777	0.1296
	(0.2923)	(0.2844)	(0.2445)	(0.2109)
Mother Graduated from College	0.5648	0.1690	0.2443	-0.0399
	(0.3072)	(0.2938)	(0.2595)	(0.2218)
Father Graduated from High School	-0.2896	-0.2876	-0.1686	-0.2010
	(0.1789)	(0.1470)	(0.1922)	(0.1529)
Father Has some College	-0.4731	-0.4485	-0.3525	-0.3720
	(0.1955)	(0.1542)	(0.2108)	(0.1584)
Father Graduated from College	-0.7116	-0.6757	-0.6221	-0.6285
	(0.2057)	(0.1672)	(0.2218)	(0.1758)

(continued)

Table 3 (continued)
Probit Regressions for Probability of Switching from Private to Public School

	Specification			
	PMSA-Level		County-Level	
Explanatory Variables	8th-10th (1)	8th-10th (2)	8th-10th (3)	8th-10th (4)
Family Income: $15,000 to $25,000	-0.3643 (0.2597)	-0.3707 (0.2514)	-0.4849 (0.2421)	-0.4552 (0.2396)
Family Income: $25,000 to $35,000	-0.1468 (0.2066)	-0.1068 (0.1970)	-0.2666 (0.1720)	-0.2062 (0.1677)
Family Income: $35,000 to $50,000	-0.2720 (0.2229)	-0.2355 (0.2169)	-0.4090 (0.1906)	-0.3476 (0.1898)
Family Income: $50,000 to $100,000	-0.3768 (0.2451)	-0.3043 (0.2327)	-0.5658 (0.1977)	-0.4712 (0.1931)
Family Income more than $100,000	-0.8048 (0.2439)	-0.7444 (0.2307)	-0.9940 (0.2116)	-0.9086 (0.2036)
Public School Student to Teacher Ratio	-0.1932 (0.0734)	-0.1794 (0.0719)	-0.1867 (0.0597)	-0.1746 (0.0573)
Public School Expenditures per Pupil (000s)	0.1771 (0.1706)	0.1605 (0.1615)	-0.0371 (0.1090)	-0.0261 (0.0959)
Public School Graduation Rate	2.5418 (3.3385)	3.0537 (3.2317)	1.7227 (1.3849)	1.9380 (1.3597)
Private School Student to Teacher Ratio	0.1247 (0.1073)	0.0988 (0.0997)	0.1487 (0.0854)	0.1294 (0.0802)
Serious Crime Rate	-8.9731 (6.3852)	-7.7699 (6.4488)	0.4218 (3.7102)	0.7523 (3.6595)
Poverty Rate (Ages 5 - 17)	5.0750 (3.3272)	6.4642 (3.1577)	0.8113 (1.6753)	1.6628 (1.6690)
Distance to Closest Private School (Km)	-0.0372 (0.0282)	-0.0514 (0.0281)	-0.0241 (0.0261)	-0.0347 (0.0248)
Distance Squared / 100	0.2543 (0.1574)	0.3050 (0.1524)	0.1162 (0.1201)	0.1514 (0.1075)
Minority Share of Population (Ages 5-18)	-1.5909 (1.0360)	-2.0018 (0.9462)	-0.9888 (0.7462)	-1.4431 (0.7133)
Mean of Dependent Variable	0.2331	0.2292	0.2521	0.2467
Avg. Derivative Adj. Factor	0.2477	0.2487	0.2519	0.2524
Sample Size	1750	2129	1872	2262

Notes: (1) The dependent variable equals 1 if the student attends a private school in 8th grade and a public school in 10th grade and equals 0 if the student attends a private school in both 8th and 10th grade. (2) Specifications 2 and 4 include dummy variables for missing religion and family income. (3) See notes to Table 2.

Table 4
Probit Regressions for Probability of Attending Private School

	Specification			
	PMSA-Level		County-Level	
	8th Grade	10th Grade	8th Grade	10th Grade
	(1)	(2)	(3)	(4)
(i) Black Share	0.7715	1.0845	1.5486	1.9814
	(0.8133)	(0.9295)	(0.5339)	(0.6285)
Asian Share	3.2584	5.5721	3.7950	5.9267
	(0.8829)	(1.3308)	(0.8620)	(1.1704)
Hispanic Share	-1.5243	-2.6992	-1.0960	-1.6315
	(0.7808)	(1.0216)	(0.5340)	(0.6841)
Avg. Derivative Adj. Factor	0.1924	0.1628	0.1496	0.1196
(ii) Poor Minority Share	2.4232	0.6859	4.0382	4.7278
	(2.9763)	(4.3825)	(1.7326)	(2.0929)
Non-Poor Minority Share	-0.3454	0.4860	-0.1302	0.1623
	(1.0015)	(1.4332)	(0.6637)	(0.8995)
Avg. Derivative Adj. Factor	0.1955	0.1687	0.1533	0.1255
(iii) Poor Black Share	5.0543	4.2493	5.6617	7.1300
	(3.0366)	(4.7230)	(1.8968)	(2.2811)
Poor Asian Share	7.3300	2.3629	14.2715	11.9438
	(8.2049)	(11.1185)	(6.7675)	(8.3603)
Poor Hispanic Share	0.9243	-6.2713	3.0873	2.6738
	(3.8263)	(6.6550)	(2.4424)	(3.1844)
Non-Poor Black Share	-0.9162	-0.6748	0.2764	0.1270
	(1.6366)	(2.1540)	(0.9014)	(1.2087)
Non-Poor Asian Share	2.5748	5.9713	1.9834	4.7517
	(1.0747)	(1.7274)	(1.2479)	(1.6116)
Non-Poor Hispanic Share	-1.8352	-0.7914	-2.3557	-2.7367
	(1.9714)	(2.7234)	(1.4693)	(1.8534)
Avg. Derivative Adj. Factor	0.1921	0.1625	0.1488	0.1190
Mean of Dependent Variable	0.1604	0.1393	0.1238	0.1041
Sample Size	10020	6927	13330	9511

Notes: (1) See notes to Table 2. (2) All specifications include the same control variables as those included in the specifications reported in Table 2.

Table 5
Probit Regressions for Probability of Switching from Private to Public School

	Specification			
	PMSA-Level		County-Level	
	8th-10th Grade (1)	8th-10th Grade (2)	8th-10th Grade (3)	8th-10th Grade (4)
(i) Black Share	-1.1177	-1.7690	-0.7044	-1.2634
	(1.4626)	(1.4163)	(0.9618)	(0.9423)
Asian Share	-11.1734	-10.5996	-8.6442	-8.4241
	(4.8384)	(4.4133)	(3.1681)	(2.9402)
Hispanic Share	3.1761	2.5258	2.5685	1.7722
	(1.7190)	(1.6822)	(1.1948)	(1.1370)
Avg. Derivative Adj. Factor	0.2368	0.2395	0.2421	0.2447
(ii) Poor Minority Share	13.7497	9.3100	-2.3393	-4.2382
	(7.4350)	(7.3121)	(3.7284)	(3.5488)
Non-Poor Minority Share	-5.7272	-5.1508	-0.6314	-0.6788
	(1.8974)	(1.8764)	(1.1534)	(1.0491)
Avg. Derivative Adj. Factor	0.2439	0.2468	0.2515	0.2514
(iii) Poor Black Share	20.0687	15.0952	-3.7678	-5.9179
	(8.5591)	(8.2121)	(3.4660)	(3.3882)
Poor Asian Share	-33.6731	-39.6642	-2.4928	-6.6702
	(27.7871)	(27.9332)	(13.0748)	(13.2141)
Poor Hispanic Share	41.6015	36.8260	5.5349	0.4620
	(16.6733)	(14.8779)	(5.4348)	(5.0202)
Non-Poor Black Share	-8.9240	-8.3045	1.0142	0.7947
	(3.3178)	(3.3170)	(1.4091)	(1.3670)
Non-Poor Asian Share	-7.1381	-5.6283	-8.9326	-8.2322
	(7.1001)	(6.6239)	(4.0982)	(3.8552)
Non-Poor Hispanic Share	-9.3684	-9.1091	0.4937	1.4347
	(5.5735)	(4.9772)	(2.6532)	(2.4835)
Avg. Derivative Adj. Factor	0.2274	0.2325	0.2394	0.2420
Mean of Dependent Variable	0.2331	0.2292	0.2521	0.2467
Sample Size	1750	2129	1872	2262

Notes: (1) See notes to Table 3. (2) All specifications include the same control variables as those included in the specifications reported in Table 3.

Table 6
Probit Regressions for Probability of Attending Private School

	Specification			
	PMSA-Level		County-Level	
	8th Grade	10th Grade	8th Grade	10th Grade
	(1)	(2)	(3)	(4)
(i) Feel It Is Okay to	-0.0308	-0.0429	-0.0857	-0.0161
Make Racist Remarks	(0.1121)	(0.1257)	(0.0887)	(0.1005)
Minority Share	0.3632	0.4690	0.9704	1.1860
	(0.6625)	(0.7371)	(0.4796)	(0.5336)
Minority Share *	0.1398	0.2612	0.1737	0.1242
Racist Remarks	(0.2885)	(0.3393)	(0.2453)	(0.2705)
Avg. Derivative Adj. Factor	0.1710	0.1688	0.1292	0.1260
(ii) Feel It Is Okay to	-0.1573	-0.0694	-0.1596	-0.0420
Make Racist Remarks	(0.1129)	(0.1334)	(0.0793)	(0.0903)
Black Share	1.4758	2.3050	2.0450	2.6182
	(0.7670)	(0.8863)	(0.5594)	(0.6312)
Black Share *	0.8651	0.5007	0.6526	0.2933
Racist Remarks	(0.5600)	(0.6489)	(0.3661)	(0.3812)
Avg. Derivative Adj. Factor	0.1697	0.1665	0.1269	0.1228
Mean of Dependent Variable	0.1337	0.1396	0.1003	0.1043
Sample Size	7063	6901	9736	9472

Notes: See notes to Table 2.

Table 7

Probit Regressions for Probability of Switching from Private to Public School

	Specification			
	PMSA-Level		County-Level	
	8th-10th Grade (1)	8th-10th Grade (2)	8th-10th Grade (3)	8th-10th Grade (4)
(i) Feel It Is Okay to Make Racist Remarks	-0.0103	0.0354	-0.0978	-0.0197
	(0.2669)	(0.2329)	(0.2141)	(0.1995)
Minority Share	-1.5059	-1.9398	-0.9579	-1.3904
	(1.0388)	(0.9494)	(0.7506)	(0.7206)
Minority Share * Racist Remarks	-0.3823	-0.4808	-0.0943	-0.2702
	(0.7955)	(0.6587)	(0.5455)	(0.5060)
Avg. Derivative Adj. Factor	0.2455	0.2463	0.2501	0.2505
(ii) Feel It Is Okay to Make Racist Remarks	-0.3030	-0.1771	-0.2516	-0.1693
	(0.2477)	(0.2209)	(0.1820)	(0.1698)
Black Share	-3.0214	-3.4403	-1.9851	-2.2289
	(1.4229)	(1.3429)	(0.9458)	(0.8966)
Black Share * Racist Remarks	0.9010	0.3245	0.5339	0.2538
	(1.1540)	(1.0066)	(0.6651)	(0.6330)
Avg. Derivative Adj. Factor	0.2431	0.2444	0.2477	0.2488
Mean of Dependent Variable	0.2311	0.2271	0.2503	0.2447
Sample Size	1722	2092	1842	2223

Note: See notes for Table 3.

Appendix 1
Means of Selected Variables

	Specification			
	PMSA-Level		County-Level	
	8th Grade (1)	10th Grade (2)	8th Grade (3)	10th Grade (4)
Baptist	0.1735	0.1633	0.2014	0.1915
Methodist	0.0949	0.1053	0.1030	0.1118
Lutheran	0 0757	0.0784	0.0862	0.0924
Other Christian	0.2346	0.2401	0.2384	0.2414
Catholic	0.3377	0.3303	0.2932	0.2879
Jewish	0.0300	0.0332	0.0223	0.0241
Other Religion	0.0298	0.0277	0.0325	0.0303
Mother Graduated from High School	0.2934	0.2932	0.3052	0.3082
Mother Has some College	0.4127	0.4174	0.4092	0.4120
Mother Graduated from College	0.2011	0.2160	0.1815	0.1949
Father Graduated from High School	0.2207	0.2217	0.2427	0.2491
Father Has some College	0.3450	0.3548	0.3402	0.3462
Father Graduated from College	0.3065	0.3191	0.2731	0.2834
Family Income: $15,000 to $25,000	0.1490	0.1419	0.1702	0.1642
Family Income: $25,000 to $35,000	0.1887	0.1938	0.2002	0.2087
Family Income: $35,000 to $50,000	0.2546	0.2655	0.2400	0.2510
Family Income: $50,000 to $100,000	0.2456	0.2609	0.2112	0.2230
Family Income more than $100,000	0.0554	0.0564	0.0453	0.0456
Public School Student-Teacher Ratio	17.8568	17.3768	17.5796	17.1058
Public School Expenditures per Pupil	5.2791	5.2948	5.0558	5.0616
Public School Graduation Rate	0.9296	0.9382	0.9310	0.9358
Private School Student-Teacher Ratio	14.6029	14.6339	14.5561	14.5931
Serious Crime Rate	0.0584	0.0593	0.0473	0.0473
Poverty Rate (Ages 5-17)	0.1554	0.1531	0.1594	0.1558
Dist. to Closest Private School (Km)	4 0423	4.2710	9.8854	10.5785
Minority Share of Population	0.2794	0.2706	0.2177	0.2024
Black Share	0.1520	0.1465	0.1161	0.1060
Asian Share	0.0305	0.0295	0.0231	0.0217
Hispanic Share	0.0903	0.0880	0.0700	0.0663
Poor Minority Share	0.0907	0.0874	0.0722	0.0666
Non-Poor Minority Share	0.1872	0.1817	0.1443	0.1344
Poor Black Share	0.0562	0.0540	0.0445	0.0406
Poor Asian Share	0.0053	0.0051	0.0039	0.0035
Poor Hispanic Share	0.0272	0.0264	0.0210	0.0197
Non-Poor Black Share	0.0945	0.0912	0.0707	0.0644
Non-Poor Asian Share	0.0252	0.0244	0.0193	0.0182
Non-Poor Hispanic Share	0.0629	0.0615	0.0487	0.0462
Sample Size	10020	6927	13330	9511

Note: Samples are the same as those used in Table 2.

Appendix 2
Means of Selected Variables

	Specification			
	PMSA-Level		County-Level	
	8th-10th Grade (1)	8th-10th Grade (2)	8th-10th Grade (3)	8th-10th Grade (4)
Minority Share	0.3097	0.1986	0.0115	0.9537
Black Share	0.1639	0.1643	0.1826	0.1801
Asian Share	0.0389	0.0390	0.0406	0.0406
Hispanic Share	0.0821	0.0848	0.0822	0.0834
Poor Minority Share	0.0937	0.0950	0.1079	0.1063
Non-Poor Minority Share	0.1938	0.1955	0.2013	0.2012
Poor Black Share	0.0632	0.0627	0.0752	0.0731
Poor Asian Share	0.0061	0.0061	0.0072	0.0069
Poor Hispanic Share	0.0232	0.0250	0.0242	0.0249
Non-Poor Black Share	0.0996	0.1004	0.1070	0.1065
Non-Poor Asian Share	0.0328	0.0329	0.0336	0.0338
Non-Poor Hispanic Share	0.0587	0.0595	0.0579	0.0582
Sample Size	1750	2129	1872	2262

Notes: Samples are the same as those in Table 3.